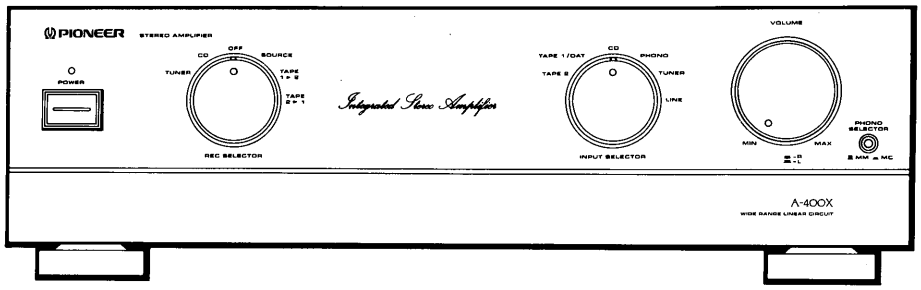
Operating Instructions

STEREO AMPLIFIER

A-400X



Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

"This product complies with the Radio Interference requirements of the EC (European Community) Directive 87/308/EEC."

IMPORTANT

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT

WARNING: THIS APPLIANCE MUST BE EARTHED

The wires in this mains lead are coloured in accordance with the following code:

Green and yellow:	**Earth**
Blue:	**Neutral**
Brown:	**Live**

If the plug provided is unsuitable for your socket outlets, the plug must be cut off and a suitable plug fitted. The cut-off plug should be disposed of and must not be inserted into any 13 amp socket as this can result in electric shock. The plug or adaptor or the distribution panel should be provided with 13 amp fuse. As the colours of the wires in the mains lead of this appliance may not correspond with coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured green and yellow must be connected to the terminal in the plug which is marked with the letter E or by the earth symbol ⏚ or coloured green, or green and yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

NOTE
After replacing or changing a fuse, the fuse cover in the plug must be replaced with a fuse cover which corresponds to the colour of the insert in the base of the plug and the appliance must not be used without a fuse cover. If lost, replacement fuse covers can be obtained from your dealer.
This appliance is rated at 13 amps. Only 13 amp fuses approved to B.S. 1362 A.S.T.A. should be used.

PIONEER®
The Art of Entertainment

CONTENTS

FEATURES 2
INSTALLATION 2
PANEL FACILITIES 3
CONNECTIONS 4
OPERATIONS 6
TROUBLESHOOTING 7
SPECIFICATIONS 8

FEATURES

- The use of a WIDE RANGE LINEAR CIRCUIT assures high fidelity playback of consistent frequency characteristics, accompanied by maximum clarity.
- Speaker terminals for BI-WIRE connection.
- Drive capacity 85 W + 85 W/4 Ω (DIN) matching to high power and low impedance type speaker system.
- REC selector switch makes tape editing very simple.
- Comes with a built-in phono equalizer which accepts MC cartridges.
- Honeycomb Chassis, Honeycomb Heat Sink (Thorough anti-vibration construction).
- Uses a complementary capacitor pair.

INSTALLATION

LOCATION

Install the amplifier in a well ventilated location where it will not be exposed to high temperature or humidity.

Do not install the amplifier in a location which is exposed to direct rays of the sun, or near hot appliances or radiators. Excessive heat can adversely affect the cabinet and internal components. Installation of the amplifier in a damp or dusty environment may result in malfunction or accident. (Also avoid installation near cookers etc., where the amplifier may be exposed to smoke from oil, steam or heat.)

POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc,. on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

CONDENSATION

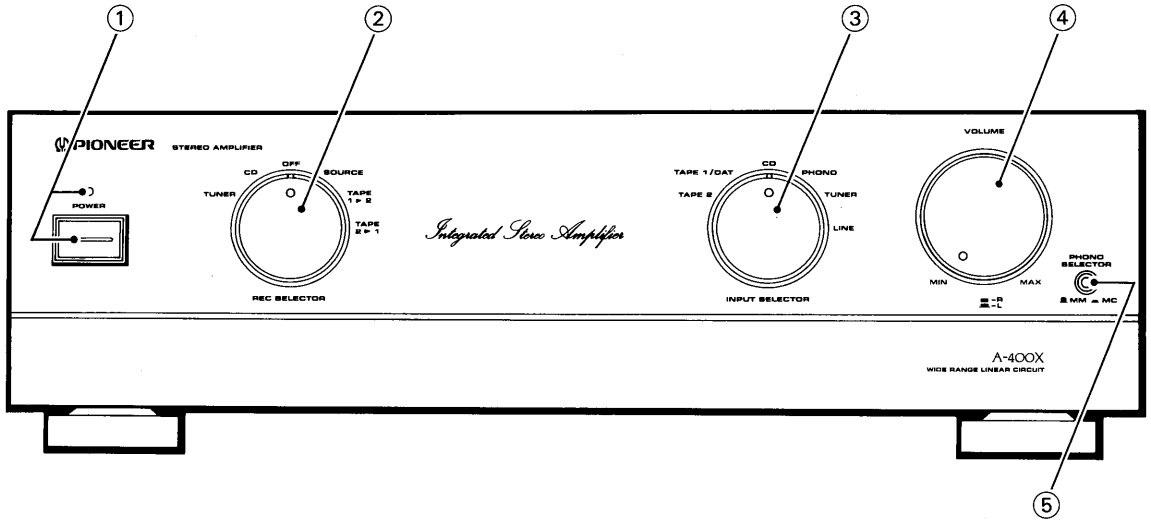
When this unit is brought into a warm room from previously cold surroundings or when the room temperature rises sharply, condensation may form inside, and the unit may not be able to attain its full performance. If this occurs, allow the unit to stand for about an hour or raise the room temperature gradually.

MAINTENANCE OF EXTERNAL SURFACES

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are very dirty, wipe with a soft cloth dipped in some neutral cleanser diluted 5 or 6 times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleaners.
- Never use thinners, benzine, insecticide sprays and other chemicals on or near this unit, since these will corrode the surfaces.

PANEL FACILITIES

[FRONT PANEL]



① POWER switch/indicator

Press to turn power to the unit on and off.
When the power is on, the indicator lights.

② REC SELECTOR switch

When this switch is set to a position other than SOURCE or OFF, the equipment selected by REC SELECTOR switch can be recorded from, irrespective of the setting of INPUT SELECTOR switch.

TUNER:
To record from the equipment connected to TUNER terminals.

CD:
To record from the equipment connected to CD terminals.

OFF:
In this position, nothing from the REC terminals of TAPE 1/DAT and TAPE 2 is output. Set to this position when not recording; the cassette deck will be disconnected, improving sound quality.

SOURCE:
To record from the equipment selected by INPUT SELECTOR switch.

TAPE 1 ► 2:
To record (copy) from the cassette deck of TAPE 1/DAT terminals, to the cassette deck of TAPE 2 terminals.

TAPE 2 ► 1:
To record (copy) from the cassette deck of TAPE 2 terminals, to the cassette deck of TAPE 1/DAT terminals.

③ INPUT SELECTOR switch

Use to select the playback source.

LINE:
For playback with a component connected to LINE terminal.

TUNER:
For AM or FM broadcast reception with a tuner.

PHONO:
For record playback with a turntable.

CD:
For compact disc playback with a CD player.

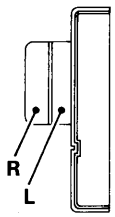
TAPE 1/DAT:
For playback with a cassette deck or digital audio tape deck connected to TAPE 1/DAT terminals.

TAPE 2:
For playback with a cassette deck connected to TAPE 2 terminals.

④ VOLUME control

Use to adjust the volume level.
This volume knob consists of two volume controls. Because you can adjust L (left) and R (right) channel volume levels independently, it also functions as a balance control.

[Example]
To raise R (right) channel volume level, prevent the L knob from turning with one hand, and turn the R knob with the other hand.



⑤ PHONO SELECTOR switch

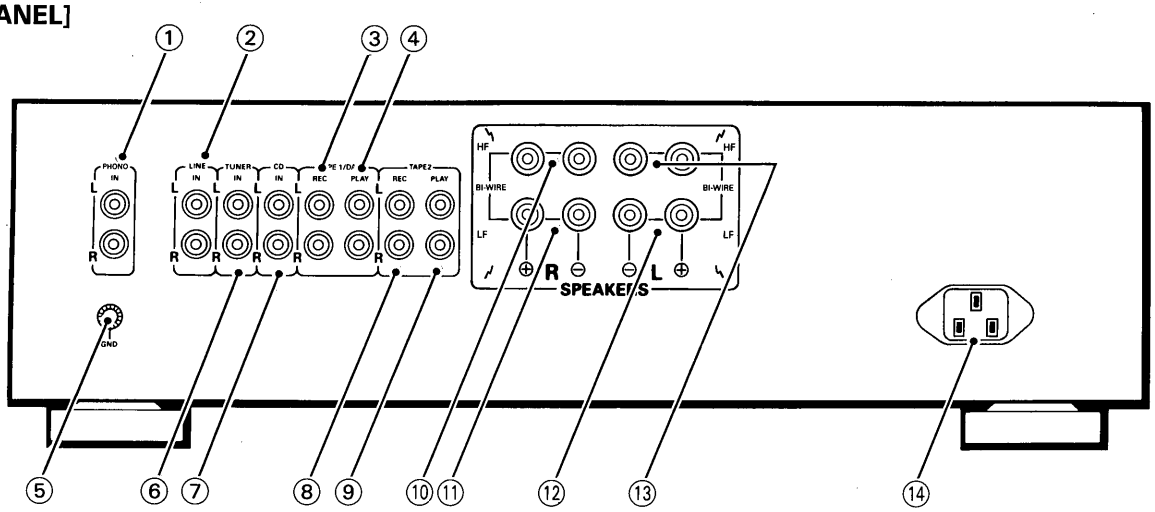
Set in accordance with the type of cartridge used with your turntable.

MM (▬):
Set to this position when using a moving magnet cartridge, or a moving coil cartridge with a high output of 1 mV or more.

MC (▬):
Set to this position when using a moving coil cartridge.

PANEL FACILITIES

[REAR PANEL]



① **PHONO terminals**
② **LINE terminals**
③ **TAPE 1/DAT REC terminals**
④ **TAPE 1/DAT PLAY terminals**
⑤ **Turntable ground terminal (GRD)**
⑥ **TUNER terminals**
⑦ **CD terminals**
⑧ **TAPE 2 REC terminals**
⑨ **TAPE 2 PLAY terminals**
⑩ **SPEAKERS HF (High Frequency) terminals R (right channel)**
⑪ **SPEAKERS LF (Low Frequency) terminals R (right channel)**
⑫ **SPEAKERS LF (Low Frequency) terminals L (left channel)**
⑬ **SPEAKERS HF (High Frequency) terminals L (left channel)**
⑭ **AC INLET jack**
Connect power cord to here and an AC wall socket, or the AC outlet of an audio timer.

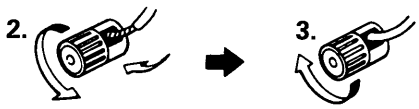
CONNECTIONS

CONNECTING THE SPEAKER CORDS

1. **Strip off the vinyl covering and twist the tip of the wire core.**

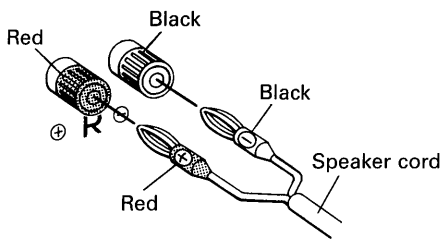
Twist the wire core.

2. **Loosen the knob and insert the wire core into the terminal hole.**
3. **Tighten the knob to fix the wire core in place.**



Using banana plugs
As shown in the diagram, insert the plugs all the way into the holes in the ends of the speaker terminals (U.K. model only).

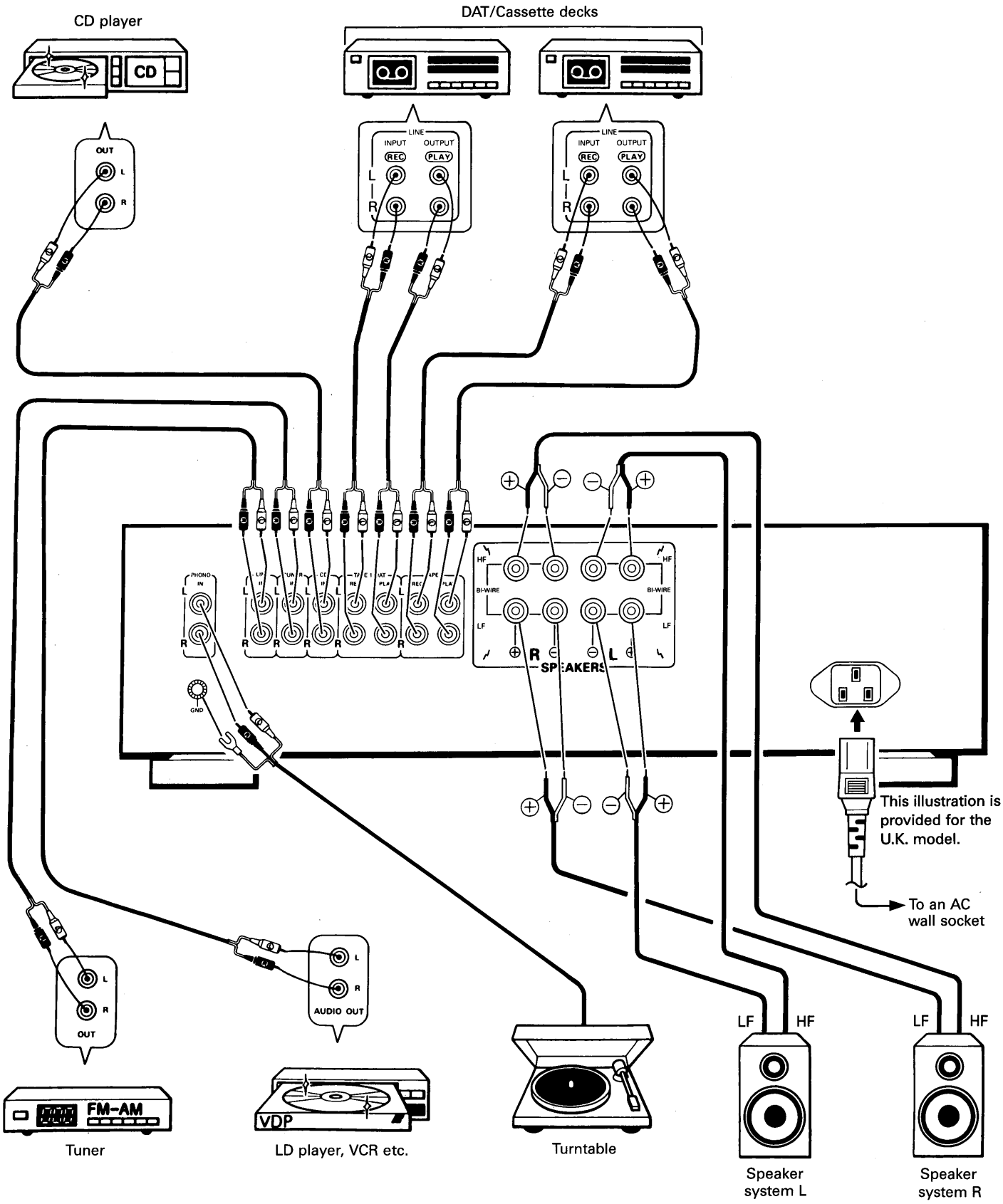
[Example: right channel]



NOTE:
Do not allow the wire core to protrude and touch other terminals or wires. If the cores of differing wires touch, damage may be caused to your amplifier and speaker systems.

Speaker Impedance

The speaker systems are connected to only SPEAKERS terminals, such speakers should have rated impedance in the range of 4 — 16 Ω. If connecting two sets of speaker systems, each should have impedance of 8 to 16 Ω. It is not possible to switch between the two sets of speakers.



Please refer to page 6 when connecting two pair of speakers.

BI-WIRING SPEAKER TERMINAL CONNECTIONS

Separate sets of speaker terminals for high range (HF) and low range (LF) enable optimum bi-wiring speaker system performance.

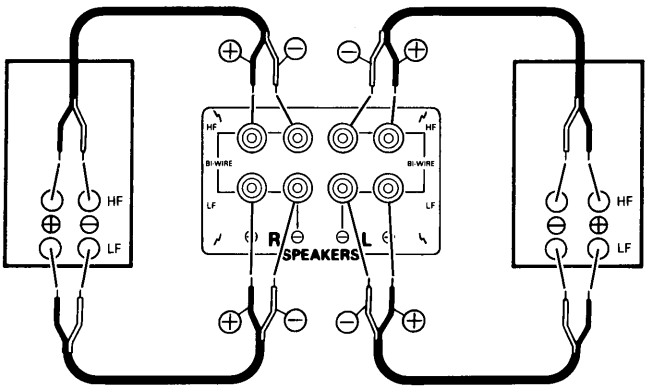
CAUTION:
In the case of bi-wiring connections, impedance of 4 Ω to 16 Ω is suitable.

NOTE:
If bi-wiring is not used and only one stereo speaker system is to be connected, connection to the LF terminals is recommended, though connection to the HF terminals is also okay.

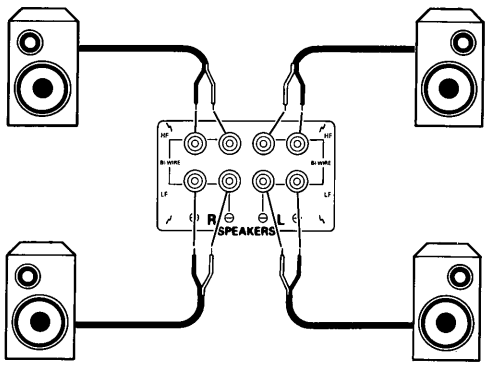
<Bi-wiring connections>

Speaker system R

Speaker system L



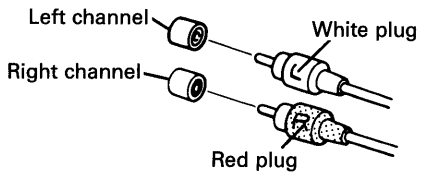
CONNECTIONS FOR TWO PAIRS OF SPEAKERS



CAUTION:
If two pairs of speakers are to be connected, nominal impedance for each should be 8 Ω or more.

CONNECTING THE INPUT/OUTPUT CORDS

Connect the white plug to the L (left) side, and the red plug to the R (right) side. Be sure to insert the plugs in securely.



The Input/Output jacks of this unit are dull tinplated, aiming at high audio quality.

OPERATIONS

Set the controls and switches as follows: See page 3.

[PLAYBACK PROCEDURES]

1. Set INPUT SELECTOR ③ switch to the desired playback source.

- For playback with the equipment connected to LINE terminals: Set to [LINE].
- For reception of an AM/FM broadcast: Set to [TUNER].
- For playback of a record: Set to [PHONO].
  Set PHONO SELECTOR switch to MM (■) or MC (▬) according to the type of cartridge being used.
- For playback of a compact disc: Set to [CD].
- For playback of a tape: Set to [TAPE 1/DAT] or [TAPE 2].

2. Operate the equipment to begin playback.

3. Adjust playback volume with VOLUME Control ④ on this unit.

[RECORDING TAPES]

1. Select the recording equipment with REC SELECTOR ② switch.

In any position other than SOURCE and OFF, the source selected with the REC SELECTOR switch is recorded regardless of the position of the INPUT SELECTOR switch.
When the switch is in the SOURCE position, the signal of the component selected with the INPUT SELECTOR switch is recorded. When not recording, switching to the OFF position prevents any loss in sound quality.

NOTES:

- *When set to SOURCE, the signals from the device connected to the terminals of the selected input are recorded. (To record signals from the device connected to PHONO or LINE terminals, for instance set REC SELECTOR switch to SOURCE and set INPUT SELECTOR switch to PHONO or LINE accordingly.)*
- *Recording is impossible when the switch is set to OFF.*

2. Begin recording by operating the recording equipment.

Refer to the operating instructions for your cassette deck for proper operating procedures.

[MONITOR WHILE OPERATING]

On a 3-head cassette deck, sound can be concurrently heard recording on cassette. This operation of checking the sound quality and recording level is called "monitoring." For monitoring, INPUT SELECTOR switch of this unit must be set to the cassette deck on which recording is being done.

- When recording with the cassette deck connected to TAPE 1/DAT terminals: Set to TAPE 1/DAT.
- When recording with the cassette deck connected to TAPE 2 terminals: Set to TAPE 2.

NOTE:

When recording from PHONO or LINE source, recording monitor is not possible.

[COPYING TAPES]

When two decks are used, you can record the sounds from one deck onto the other.

Application examples:

- To make a tape copy with contents identical to the original tape.
- To edit a recording of an FM broadcast in order to cut out unwanted commercials, recording only desired material onto another tape.

When using two cassette decks

1. Load tapes for playback (pre-recorded tape) and recording (blank tape) into the respective cassette decks.

2. Select the copying direction with REC SELECTOR ② switch.

- When copying from the cassette deck of TAPE 1/DAT terminals to the cassette deck of TAPE 2 terminals: Set to TAPE 1 ► 2.
- When copying from the cassette deck of TAPE 2 terminals to the cassette deck of TAPE 1/DAT terminals: Set to TAPE 2 ► 1.

NOTE:

The tape input selected with REC SELECTOR switch can be copied, regardless of the settings of INPUT SELECTOR.

3. Operate the cassette decks to begin copying.

Set the cassette deck with the original (playback) tape to the playback mode, and set the cassette deck with the blank tape to the recording mode.

TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used. If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Cause	Remedy
No power supplied to unit	• Power plug is disconnected from outlet. • The component power plug has been plugged into another component power outlet (e.g. timer, etc.) but power to that unit is disconnected.	• Insert plug securely into outlet. • Turn on power to the other component.
No sound	• Connecting cords are disconnected from terminals, or connected incorrectly. • Terminals, or connecting cords pin plugs are dirty. • INPUT SELECTOR switch is not set to the desired input source. • Operation of other components is incorrect.	• Connect securely. • Clean terminals and plugs. • Set the switch correctly (PHONO, TUNER, CD, LINE, TAPE 1/DAT, TAPE 2). • Consult the operating instructions for the other components.
No sound from one speaker	• Connecting cords or speaker cords are disconnected on that side.	• Connect securely.
Cannot record tapes.	• The position of REC SELECTOR switch is incorrect. • Connections are incorrect. • Operation of cassette deck is incorrect.	• Set switch correctly (See section RECORDING TAPES). • Reconnect properly. • Consult the operating instructions for the cassette deck.
Cannot perform tape copying	• The position of REC SELECTOR switch is incorrect. • Operation of cassette deck is incorrect.	• Set switch correctly (See section COPYING TAPES). • Consult the operating instructions for the cassette deck.

SPECIFICATIONS

Amplifier Section

Continuous Power Output (both channels driven at 20 Hz to 20 kHz)*
- T.H.D. 0.02 %, 8 Ω ..... 50 W + 50 W
- T.H.D. 0.03 %, 4 Ω ..... 70 W + 70 W

DIN Continuous Power Output (both channels driven at 1 kHz)
- T.H.D. 1.0 %, 8 Ω ..... 60 W + 60 W
- T.H.D. 1.0 %, 4 Ω ..... 85 W + 85 W

Dynamic Power Output (on EIA dynamic test signal)
- 8 Ω/4 Ω/2 Ω ..... 70 W/100 W/150 W

Total Harmonic Distortion*
- 20 Hz to 20 kHz, 50 W, 8 Ω ..... 0.02 %
- 20 Hz to 20 kHz, 70 W, 4 Ω ..... 0.03 %

Input Sensitivity/Impedance
- PHONO (MM) ..... 2.8 mV/50 kΩ
- PHONO (MC) ..... 0.24 mV/100 Ω
- CD, TUNER, LINE, TAPE ..... 200 mV/40 kΩ

PHONO Overload Level
- 1 kHz, T.H.D. 0.1 % (MM/MC) ..... 150 mV/10 mV

Output Level/Impedance
- TAPE REC ..... 200 mV/1 kΩ

Frequency Response
- PHONO (MM) ..... 20 Hz to 20 kHz, ±0.3 dB
- PHONO (MC) ..... 20 Hz to 20 kHz, ±0.5 dB
- CD, TUNER, LINE, TAPE ..... 1 Hz to 300 kHz, $^{+0}_{-3}$ dB

Signal-to-Noise ratio (IHF short circuit, A network)
- PHONO (MM, 2.8 mV input/MC, 0.24 mV input) .... 86 dB/67 dB
- CD, TUNER, LINE, TAPE ..... 110 dB

Signal-to-Noise ratio (DIN, continuous power/50 mW)
- PHONO (MM) ..... 74 dB/68 dB
- CD, TUNER, LINE, TAPE ..... 93 dB/71 dB

Power Supply/Miscellaneous

Power Requirements
- U.K. and Australian models ..... a.c. 240 Volts ~, 50/60 Hz
- Singapore model ..... a.c. 220—230 Volts ~, 50/60 Hz

Power Consumption ..... 520 W
Dimensions ..... 420 (W) x 352 (D) x 126 (H) mm
Weight (without package) ..... 7.9 kg

Accessories

Operating Instructions 1
AC cord 1

- *Specifications and design subject to possible modification without notice, due to improvements.*

** Measured by Audio Spectrum Analyzer.*

Published by Pioneer Electronic Corporation.
Copyright © 1993 Pioneer Electronic Corporation.
All rights reserved.

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS [USA] INC. 2265 East 220th Street, Long Beach, California 90810, U.S.A.
P.O. BOX 1720, Long Beach, California 90801, U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 300 Allstate Parkway Markham, Ontario L3R 0P2, Canada
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 keetberglaan 1, 9120 Melsele, Belgium, TEL: 03/750.05.11
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia, TEL: [03] 580-9911

<93C01FF3Y01>

Printed in Japan <ARB1431-A>